

ABSTRACT OF THE DISCLOSURE

The present invention is a cylindrical linear fluid motor comprising a plurality of reciprocating rotary piston sleeve intermediate an inner coaxial hollow drive shaft and an outer coaxial cylindrical housing. Rotating disc valves at both ends of the sleeve piston control the sequential flow of high-pressure and low-pressure fluid through ports in both the drive shaft and the housing. High-pressure fluid acts on one end of the sleeve piston causing the piston to travel laterally along the drive shaft, with an inner set of roller balls in linear raceways ensuring no rotation between each piston and the drive shaft. The linear motion simultaneously affects exhausting of low-pressure fluid at the other end of the piston. Outer balls are seated in the housing and a sinusoidal circumferential raceway of each piston, to affect rotation in the piston from the lateral motion. As a piston reaches the limit of its linear travel the rotating disc valve on one end closes inlet ports and opens exhaust ports, while another rotating disc valve closes exhaust ports and opens inlet ports at the other end, causing the high-pressure fluid to reverse the piston's lateral direction of movement. The multiple pistons of a motor are rotationally sequenced to create consistent power production throughout 360-degree rotation, of the pistons.